Eight Peaks Winter Recreation Sustainable Resource Management Plan (SRMP)

Socio-Economic Assessment

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1 Executive Summary

The Eight Peaks Winter Recreation Sustainable Resource Management Planning (SRMP) area includes approximately 44,500 hectares of mountain slopes within 15 kilometres of the community of Blue River. These slopes overlook the North Thompson River valley and the Mud Lake valley.

In early 2002, Mike Wiegele Helicopter (MWHS) and the Ministry of Forests (MOF) approached the Ministry of Sustainable Resource Management (MSRM) and requested that a strategic level plan be developed to integrate forest management, heli-ski run development and other winter recreation pursuits. The Eight Peaks Winter Recreation SRM Planning Chapter was then developed. Implementation of the SRMP could result in the withdrawal of approximately 1,350 ha from the Timber Harvesting Land Base (THLB) of the Kamloops Timber Supply Area (TSA).

The purpose of this report is to assess the socio-economic implications of the land use scenario outlined in the Draft Eight Peaks Winter Recreation Sustainable Resource Management Planning Chapter (SRMP). The impacts of the proposed land use scenario are evaluated from the perspectives of economic development, provincial government revenues, community/social implications, and economic efficiency. Environmental and aboriginal implications are not evaluated as part of this report.

The Development Scenario is evaluated against the Base Case (status quo) as described below:

Base Case:	The Eight Peaks SRMP does not proceed, and the affected land base is managed under guidelines according to the Kamloops LRMP and all applicable legislation.
Development Scenario:	The Eight Peaks SRMP is implemented, resulting in the removal of productive forest land from the Timber Harvesting Land Base for the purpose of developing managed heli-ski runs. All existing land and resource management guidelines defining the Base Case still apply.

The analysis focuses on the trade-offs between tourism development versus timber harvesting values in the Eight Peaks SRMP area.

The following table summarizes the impacts of the Development Scenario for each of the four perspectives. The key indicators for Economic Development include employment and employment income impacts on tourism, forestry and construction activity. Expected impacts on population, incomes and general well-being, including the ability of residents to enjoy local recreation opportunities, are discussed in the community/social section. Impacts on provincial government revenues are also addressed. . The Economic Efficiency analysis assesses the net resource value or net benefits of the Development Scenario realized from forestry, tourism and recreation activity.

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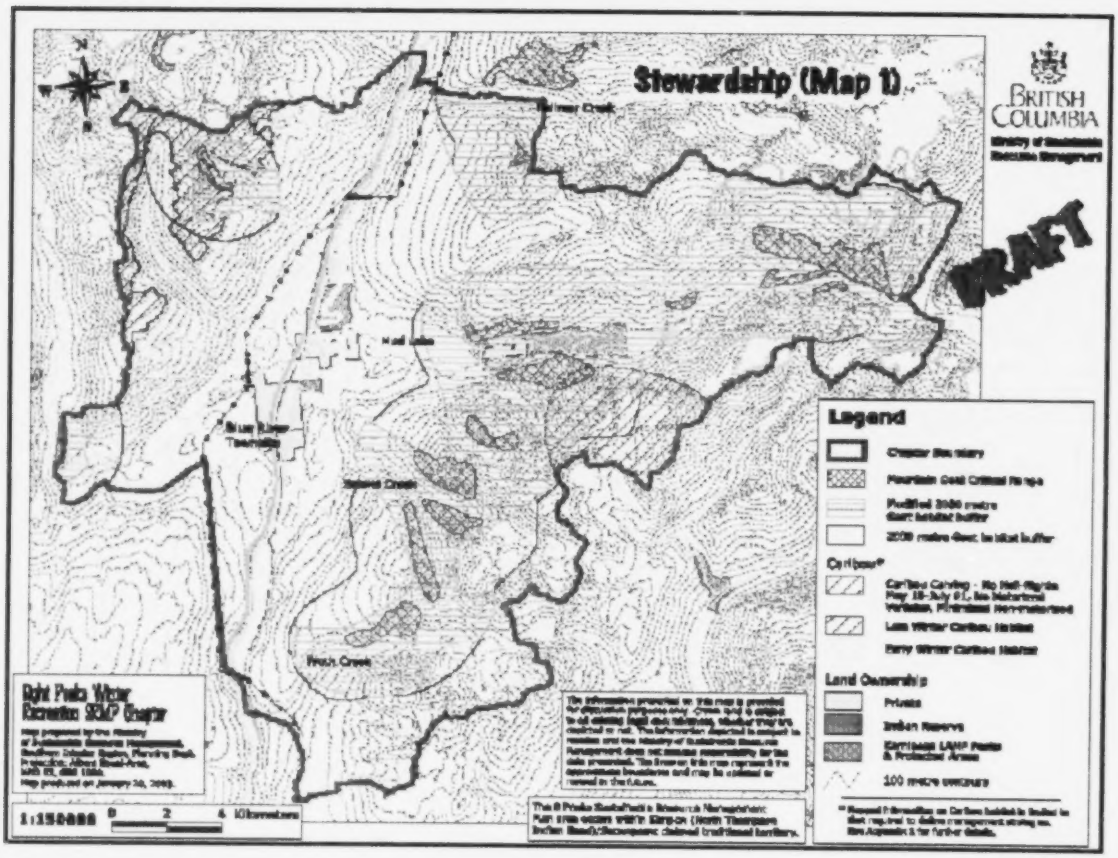
Stewardship (Map 1)
BRITISH COLUMBIA
DRAFT
Legend
Caribou*
Land Ownership
Private
Indian Reserve
Fresh Creek
1:150000
0 2 6 10kilometers

EVALUATION AREAS	DEVELOMENT SCENARIO SRMP IMPLEMENTATION
Economic Development	• No forestry impacts in the first five years of the SRMP as the Development Scenario harvest matches the Base Case harvest. • No forestry impacts between Year 5 and 20, as the AAC is unlikely to change. • Tourism impacts grow over the first five years as visitation to Eight Peaks increases, reaching 11.9 provincial person-years of employment and $434,406 in provincial employment income each year starting in Year 5. • Tourism impacts on Blue River are limited by the fact that many tourism sector employees will not likely reside in Blue River. However other regional communities like Clearwater and Kamloops may benefit. • Development of managed ski runs creates construction activity over the first five years of the plan. The largest impacts are in Year 1, with 30.3 provincial person-years of employment and over $0.95 million in employment income generated. All construction impacts cease after Year 5. • Construction impacts on Blue River are limited by the small size of the local construction workforce.
Community/Social	• Community benefits arising from increased tourism employment will depend largely on the number of new employees who reside in Blue River. Wage levels and seasonal employment would tend to attract younger employees, but Blue River's relative lack of housing and other services may be a disincentive. • Increase in tourism jobs will help diversify the local and regional economy. • The ability of residents to recreate on the surrounding Crown land base could be enhanced if SRMP guidelines and objectives are successfully applied. • However, the potential exists for future conflicts between tourism and resident recreation if local multiple-use agreements are not agreed on.
Provincial Government Finances	• Government revenues increase in the early years of SRMP chapter implementation, due to construction impacts and growing tourism revenues. • Provincial revenues from construction total $0.31 million over the first five years, while tourism revenues increase from $32,685 in Year 1 to $101,069 per year by Year 5 and continue thereafter. • There are no forgone forestry revenues in the first five years of the plan as the harvesting of the heli-ski runs matches what would have happened under the Base Case scenario. • After Year 5, there are no forgone forestry revenues as the AAC is unlikely to be affected. However, in the long-term (after 80 years), the reduction in the THLB and the loss of future rotations would mean reduced timber harvesting and a commensurate reduction in government revenues.
Provincial Economic Efficiency of Resource Use	• Commercial recreation tenure payments are used as proxies for the net resource value (economic rent) of tourism. • Tourism net resource values are $1,792 in Year 1 and with increased Eight Peaks visitation more than double to reach $4,608 per year in Year 5. • Discounting and adding up the tourism and forestry net resource values over a 20-year period yields a net present value of $60,807 with a 4% discount rate and $45,114 with an 8% discount rate. • In the long-term (after 80 years), there will be an opportunity cost of forgone forestry rents resulting from the withdrawal of 1,350 ha from the Timber Harvesting Land Base. This analysis does not quantify an associated net present value from Year 80 and onward (i.e. when the next timber harvest would have been due). • There may also be opportunity costs if local recreation activity is displaced by tourism development. Information is not available to quantify these costs.

2 Introduction

The purpose of this report is to assess the socio-economic implications of the land use scenario outlined in the Draft Eight Peaks Winter Recreation Sustainable Resource Management Plan (SRMP). The impacts of the proposed land use scenario are evaluated from the perspectives of economic development, provincial government revenues, community/social implications, and economic efficiency. Environmental and aboriginal implications are not evaluated as part of this report.

The North Thompson Indian Band (NTIB)and MWHS have developed a Memorandum of Understanding outlining protocol for ecotourism development. NTIB have been consulted on this development by MSRM and have indicated comfort with the draft document.. Recently NTIB has received Federal and Provincial funding to review their direct involvement in projects in conjunction with MWHS that have received the support of Chief and Council and will be subject to a community referendum.

The development scenario is evaluated against the Base Case (status quo) as summarized below:

Base Case:	The Eight Peaks SRMP does not proceed, and the affected land base is managed under guidelines according to the Kamloops LRMP and all applicable legislation.
Development Scenario:	The Eight Peaks SRMP is implemented, resulting in the removal of 1,350 hectares of productive forest land from the Timber Harvesting Land Base for the purpose of developing managed heli-ski runs. All existing land and resource management guidelines defining the Base Case still apply.

As per the Terms of Reference (see Appendix 2) and Ministry of Sustainable Resource Management (MSRM) direction, the analysis focuses on the trade-offs between tourism development versus timber harvesting values in the Eight Peaks SRMP area.

3 Assessment Methodology

This report identifies key economic trade-offs among the various values (social, economic development, government revenues) to show the advantages and disadvantages for decision-makers, taking into account the uncertainties involved.

There are four areas of assessment: social (community), economic development (jobs), provincial government finances (net government revenues) and economic efficiency (net resource value).

The methodology is consistent with the provincial government's document *Socio-Economic and Environmental Impact Assessment for Land and Resource Management Planning in BC: Final Guidelines for Multiple Accounts Analysis,* November, 2001, and *Socio-Economic and Environmental Assessment for Land and Resource Management Planning in BC: Guiding Principles*, January 21, 2003.

A description of the methodology is given in Appendix 1, while study contacts and bibliography are provided in appendices 3 and 4, respectively.

4 Limitations of the Analysis

This socio-economic analysis is of the Eight Peaks SRMP and its strategic level plans for forest management, heli-ski run development and other winter recreation pursuits. This report does not assess environmental and aboriginal implications of the SRMP chapter, or cumulative impacts on forestry.[1]

The use of coefficients and multipliers to calculate economic impacts has its limitations. First, they do not reflect the ability of communities to adjust to changes in the economic base. And second, they are linear and do not recognize threshold effects (i.e. at the margin, a small change in activity could, in some circumstances, be sufficient to generate large impacts). Readers are reminded of the limitations and shortcomings of the methodologies and that the impacts are approximations.

5 Project Overview

The Eight Peaks Winter Recreation SRMP area includes approximately 44,500 hectares of mountain slopes within about 15 kilometres of the community of Blue River. The plan area is currently part of the existing MWHS tenured heli-ski area These slopes overlook the North Thompson River valley and the Mud Lake valley. The plan area is primarily bounded by heights of land and sub-drainages within the Thunder Blue, Avola and Mud Landscape Units.[2]

The forested land base of the plan area is primarily in the Interior Cedar Hemlock and the Engelman Spruce Subalpine Fir biogeoclimatic zones. The area around Blue River is characterized by cool winters and moderate summers.

Frequent heavy snowfalls, and high annual snowfall accumulation make Blue River and areas north along the Yellowhead Highway attractive for winter recreation. Snowmobiling and heli-skiing are well established winter sports. Currently tourism-oriented snowmobiling activities are focused north of Blue River and around the town of Valemount, approximately 90 km north. Blue River has several snowmobiling areas used principally by local residents. Anecdotal evidence indicates growing snowmobile use in the area by residents and visitors.

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[1] The proposed reductions in the timber harvesting land base needed to implement the SRMP are minor in comparison to the total timber harvesting land base of the Kamloops Timber Supply Area. The impacts on harvest levels are considered to be equally minor. However, if other projects and planning processes result in similarly "minor" withdrawals from the land base over time, their accumulation will eventually reduce timber supply and the AAC. These hypothetical landbase withdrawals have yet to occur, and may not occur; therefore, this report is concerned only with the relatively small impact of the 1,350 ha withdrawal associated with this SRMP.

[2] Readers can find SRMP planning details at http://srmwww.gov.bc.ca/sir/lrmp/8peaks/.

The operations base for Mike Wiegele Heli-skiing (MWHS) is also in Blue River. MWHS operates over the mountain ranges that bound much of the North Thompson River Valley.

Residents and businesses in the Blue River area are interested in expanding commercial and non-commercial winter recreation close to the community. Other resource users such as the forest industry are generally supportive of increased recreation use but are concerned about the loss of productive forest areas and increased harvesting costs.

MWHS has long recognized the opportunity to integrate timber harvesting with ski run development. MWHS has worked with forest companies and their development plans to improve skiing opportunities in the heli-ski terrain and within the last seven years has focused plans for the development of Saddle Mountain which will have permanent runs, fixed lifts and real estate development. The Master Plan for this development was approved by the Province in October 2001. More recently, a trial project was conducted with MoF and Weyerhaeuser on Ptarmigan Mountain with "temporary" or "transitory" heli-ski runs that are used as ski runs until the skiing impacts forest regrowth. Successful use of these trial areas has led to a an initial proposal by MWHS to develop approximately 1,062 ha of permanent and approximately 1,171 ha of transitory runs on several other forested slopes in the vicinity of Blue River - this area is referred to as the Eight Peaks. This initial proposal has been revised and scaled back as a result of the SRM Planning process due to public input as well as wildlife and recreational considerations.

In early 2002, MWHS and the Ministry of Forests (MOF) approached the Ministry of Sustainable Resource Management (MSRM) and requested that a strategic level plan be developed to integrate forest management, heli-ski run development and other winter recreation pursuits.

MSRM is the lead provincial agency responsible for planning, policies and resource information in support of the sustainable economic development of Crown land, water and resources. It works to find a balance between economic development and environmental integrity. It also provides strategic direction to ensure that decisions about Crown land are sustainable, accountable and responsible.

Sustainable Resource Management Planning (SRM Planning) is the new consolidated approach to planning at the landscape level on provincial Crown lands. SRM Planning allows MSRM to implement land use plans, identify economic opportunities, design efficient, sustainable development and conserve environmental values. SRM Planning must be consistent with LRMPs and Regional Land Use Plans. Over time, SRM Planning will provide a vehicle for maintaining land use plans that have been completed or are soon to finish and that establish broad provincial Crown land use zoning and objectives.

MSRM has prepared an *Eight Peaks Winter Recreation Sustainable Resource Management Planning Chapter* which establishes a Desired Future Condition for the planning area and a series of results-based planning objectives covering First Nations, community economic diversification, forestry, mining, recreation and tourism, viewscapes and wildlife.

6 Description of Existing Resource Values (Base Case)

6.1 Overview

The town of Blue River is situated on the Yellowhead Highway approximately 210 km north of Kamloops, British Columbia. Four hundred and fifty full-time residents make Blue River their home. Originally developed as a logging town and railway service centre, Blue River has grown to become a tourism-based community.[3] Today, forestry and tourism are the strongest economic drivers in the local economy.

6.2 Population

There are no incorporated municipalities in or near the Plan Area. Census population trend data for Blue River is not available. Blue River and Avola are the two towns in Regional District Electoral Area (RDA) B (hereafter called the region) of the Thompson-Nicola Regional District. According to Statistics Canada, in 1996 the population of the region was 415. By 2001 it was virtually unchanged at 416. Anecdotal evidence indicates perhaps a slight increase in population since 2001.[4] Community Futures Development Corporation of Thompson Country (CFDCTC) has estimated that the trading area around Blue River and Avola has a population of 500.[5]

6.3 Labour Force

In 2001, according to Statistics Canada, the experienced labour force in the region totalled 265. Thirty-six percent of the labour force was employed in the accommodation, food and beverage sector, which is primarily, but not exclusively, tourism-based. However, several other sectors of the local economy have some dependency on tourism, including retail, personal services, business services and transportation. Thus, tourism sector employment may account for more than 36% of the labour force. Other leading sectors included transportation (15%) and retail (10%). Forestry employment is not specified in the existing data release, but would be less than the combined manufacturing, forestry and agricultural labour force share of 11%.

There was modest growth of 0.8% in the regional labour force between 1996 and 2001. This is greater than population growth and is attributable to a higher participation rate. National, provincial and regional trends showing a steady job shift from goods-producing sectors such as forestry and manufacturing, to service-producing sectors like tourism are mirrored, if not exaggerated, within the Plan Area. In the TNRD, goods-producing sector employment slipped from 19.4% to 17.5% of total labour force between 1996 and 2001.

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[3] Venture Kamloops profile of Blue River: http://www.venturekamloops.com/Pages/blueriver.htm.
[4] Personal communication Steve Quinn, TNRD.
[5] *Community Profile Blue River*, Community Future Development Corporation of Thompson Country, undated.

6.4 Incomes

In 1996, the average family annual income ($47,896) and average individual income ($23,558) in the region were both approximately 15% lower than the provincial average. Statistics Canada has yet to release income data for 2001, but BC Stats estimates that in 1999 the average individual income in the region was then 17% lower than the provincial average. This decline in average incomes may be a reflection of the loss of high-paying forest sector and transportation sector jobs and the growth of lower-paying tourism jobs in recent years.

6.5 Community Infrastructure

Blue River is relatively well-served with transportation and communications infrastructure. Highway #5 is the main north-south artery of the North Thompson region, while the Canadian National Railway's (CNR) mainline runs through the community. Radio, television, telephone and Internet services are available, although broadband Internet is not.

The Blue River Improvement District supports a volunteer fire department, street lighting and garbage pickup, but most municipal-type services are delivered by the TNRD.

Blue River is on BC Hydro's electricity grid, but the town does not have access to natural gas, which limits many forms of industrial development.

Blue River Elementary is the only public school. Grade 8-12 students must travel to Clearwater High School daily on what is reputed to be Canada's longest school bus ride. Post secondary opportunities are available in Clearwater and Kamloops. MWHS is working with NTIB School District No. 73 (Kamloops) and University College of the Cariboo to provide a unique academic - vocational high school in Blue River offering training in food services, log home construction and ski guiding. The facility is scheduled to open for academic courses in September 2003 and vocational courses the following year.

There are no financial institutions in Blue River.

Most health and medical services are based in Clearwater. The Red Cross Outpost Hospital is considered a first point of contact for medical care. MWHS has a full-time doctor on staff through the winter season serving guests, staff and local residents. Additionally, all guiding staff and many other MWHS staff are fully qualified in first aid and assist in many types of rescue effort in the area. On-site helicopters provide emergency evacuation as required. All serious injuries or ailments including any treatment that requires over-night stays are referred to Dr. Helmcken Memorial Hospital in Clearwater. The major referral hospital in the region is Royal Inland Hospital in Kamloops.

Valemount and Clearwater each have RCMP detachments, court and legal services.

The community has an outdoor ice rink, basketball courts, tennis courts and a ball diamond.

Housing is limited in Blue River. LWBC recently approved a 16-hectare housing development.[6] This could support up to a 70 lot subdivision and provide much-needed housing options for employees and local families.

In summary, community infrastructure is very limited in Blue River, although it is comparable to other similar-sized communities in the province. What is different is the distance to the nearest service centres in Clearwater or Valemount. The time and cost it takes to access health, high school and other important services has a negative influence on residency patterns. Together with a limited housing stock, it is not surprising that the local population has failed to grow appreciably in recent years. And without this growth, the supply of public (e.g. health) and private (e.g. financial) services, that are population-driven, are unlikely to improve. In turn, this will continue to result in spending leakages as in-region workers choose not to reside locally.

6.6 Forestry Values

Forestry is one of three important economic base sectors of the Blue River economy, the others being tourism and transportation. Blue River is in the Clearwater Forest District of the Kamloops Timber Supply Area (TSA). In 1996, the Ministry of Finance found that 36% of all community income in the North Thompson region was attributable to forestry. The public sector (16%) and tourism (8%) were also major contributors.[7] Based on labour force changes between 1996 and 2001 noted previously, the contributions by forestry has probably declined since 1996, while tourism has increased.

Until the closure of Weyerhaeuser Canada Mills in Vavenby, most of the timber harvested in the district was processed either there, or at the nearby Slocan-Vavenby operation. Now that Weyerhaeuser has closed Vavenby, the timber it harvests in the district is processed at the company's other mills in the southern Interior. Slocan and Weyerhaeuser are also the two major licensees in the Clearwater Forest District portion of the Kamloops TSA.

There are five licensees operating in the Eight Peaks Plan Area: Weyerhaeuser, Meeker Log and Timber Ltd., Gilbert Smith Forest Products, Simpwc Development Co. and the Small Business Forest Enterprise Program (SBFEP). Gilbert Smith and Simpwc have smaller mill facilities in Barriere, Meeker has a shake plant in Kamloops, while SBFEP wood harvested by licensed small business operators is directed mainly to mills within the TSA. The AACs of licensees who are active in the area are shown below.

None of the timber harvested in the Plan Area is processed locally, as there are no primary mills in Blue River. There are a number of small portable mills but the volume of processed timber is believed to be negligible. The licensees we interviewed indicated that two about percent of their local harvest was processed locally.

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[6] http://lwbc.bc.ca/about_bcal/bcal_profile/bcal_contributions_to_bc3.jsp

[7] Horne, Garry, *British Columbia Local Area Economic Dependencies and Impact Ratios – 1996*, Ministry of Finance and Corporate Relations, May, 1999.

Licensee	AAC (m3/year)[8]	Percent of the Kamloops TSA AAC
SBFEP	402,544	15.1
Weyerhaeuser	456,276	17.0
Meeker Log and Timber	53,000	N/A*
Gilbert Smith Forest Products	135,940	5.1
Simpwc Development Co.	55,000	N/A*

* Non-replaceable licences.

Licensees estimated their annual harvest in the Plan Area at approximately 100,000 m3, annually. This represents approximately 3.7% of the Allowable Annual Cut (AAC) for the Kamloops Timber Supply Area (TSA).[9] The newly established (2003) AAC for the TSA is virtually unchanged from the previous AAC of 2.69 million m3.[10]

Based on employment coefficients noted in the 2001 Kamloops TSA Timber Supply Review[11], the estimated Plan Area harvest would generate approximately 27 person-years of direct employment and $1.9 million in direct employment income, annually, within the TSA. An additional 74 direct jobs and $5.3 million in direct income would be generated in the province as a whole. Thus, there are 101 direct jobs with an associated $7.2 million in income supported by the local harvest.

6.7 Tourism Values

Tourism has become the dominant economic force in Blue River.[12] Activity is based on the high quality natural attributes of the surrounding wilderness, particularly the slope and snow conditions of the Cariboo and Monashee mountains that have made the area world renowned for heli-skiing. Other winter tourism activities which pre-date heli-skiing include Nordic skiing (both cross-county skiing, and ski touring) and snowmobiling. Dogsledding and snowshoeing are other activities that can be experienced in Blue River.

Blue River also provides access to northern sections of Wells Gray Provincial Park. The park is one of the largest wilderness reserves in the province, encompassing 522,000 hectares. Most of the park is beyond the reach of motorized vehicles, traversable in the summer only by canoe or foot. Provincial Park camping opportunities include roadside, backcountry and marine sites. Wells Gray is an attractant for Nordic skiing as snowmobiling is prohibited in all BC parks.

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[8] AACs are for the entire Kamloops TSA.
[9] The actual land needed for proposed run development is smaller than the Plan Area.
[10] Licensee estimates approximated local harvest estimates based on applying Kamloops TSA timber productivity averages to the Plan Area land base.
[11] BC Ministry of Forests, *Timber Supply Review Kamloops Timber Supply Area Analysis Report*, Timber Supply Branch, July 2001. TSA harvesting and silviculture coefficients are 0.19 and 0.08 person years per thousand m3, respectively. Provincial coefficients (which includes the local portion) are 0.22 (harvesting), 0.09 (silviculture) and 0.61 (processing), per thousand m3.
[12] *Community Profile Blue River*, Community Future Development Corporation of Thompson Country, undated.

There is no recent inventory of Blue River tourism operators, as a Tourism Opportunity Strategy (TOS) has not been conducted for the North Thompson region. The BC Accommodation Guide lists four motels, one resort and three campgrounds/RV parks in the community. There is a variety of winter and summer outdoor activities available – much of this commercial activity is conducted by the existing lodging and campground operators. The focus for skiing and non-motorized boating activity is Wells Gray Park. There are three other outdoor adventure operators in Blue River, engaged in jet boat tours (Mud Lake/River), canoeing/kayaking (North Thompson River and other local rivers) and adventure photography tours.

The largest operator in Blue River is Mike Wiegele Heli-skiing (MWHS). MWHS opened in 1970 and has grown to become one of the largest heli-ski operations in the country. The resort, lodge and base of operations is in Blue River. The resort features a self-contained village that consists of a lodge, administration building/guest lobby, 19 guest chalets, guide's houses and sports shop with a capital investment to date in excess of $50,000,000. Other winter activities include cross-country skiing and snowmobiling. MWHS has also become a year round operation with an assortment of summer activities, including heli-picnicking, heli-hiking, heli-flyfishing, mountain biking, camping and climbing.

MWHS has existing commercial backcountry tenure for the Blue River area with exclusive right to conduct commercial heli-skiing activity. The Licence of Occupation was issued November 1, 1993 to Cariboo Helicopter Skiing (88) Ltd. The licence authorizes mechanized ski guiding on runs within an overall area of approximately 420,000 ha. comprised of nine ski zones in the Cariboo Range and 15 ski zones in the Monashee Range. A previous Licence of Occupation was issued in 1984.

Current MWHS operations out of Blue River include 13,468 ski days in the 2001-02 ski season, down slightly from 14,427 in 2000-01. The visitor origin profile in recent years is as follows: US 60%, Canada 14%, Austria six percent, Germany five percent, Switzerland three percent, United Kingdom two percent and Other 11%.

MWHS currently employs 200, with another 20 employed by primary contractor Vancouver Island Helicopter. Approximately 35% of these employees are believed to be residents of Blue River. The rest (only helicopter employees work this shift) are accommodated in staff quarters provided by MWHS. Most of these employees live in Clearwater, Valemount, Kamloops and other smaller communities in the Thompson-Okanagan.

MWHS currently uses the Plan Area for heli-skiing on an occasional basis, as it is within the existing Crown tenure. The existing heli-ski runs in the plan area provide some economies of scale as they are close to base operations in Blue River, but are not an integral part of the existing operation and revenue base.

MWHS received approval from BC Assets and Land Corporation (BCAL) in 2000 to operate a commercial public ski hill on Saddle Mountain, which is in the Plan Area. Development of the Eight Peaks area will significantly complement the development plans of Saddle Mt.

There is no guide-outfitter operating in the Plan Area, and no guide-outfitter tenure.[13] The only other existing commercial recreation tenure falling within the Plan Area is a recently approved licence for snowmobile guiding by a Blue River-based operator. Commercial operations have yet to commence.

Apart from the operations of MWHS, the previously-noted commercial recreation activity being carried out by accommodation providers in Blue River occurs either in Wells Gray Park or on an incidental basis that does not require Crown tenure.

There is also an unknown amount of unguided visitor activity in the backcountry. Visitors from other regions of the province, Alberta and long-haul markets regularly take advantage of winter and summer opportunities. As previously noted, the amount of snowmobile activity is increasing, although estimates of use numbers are not available. The value of these activities can be significant. According to a 2001 national snowmobile study, snowmobilers spend an average of $316 on overnight trip expenditures and allocated capital costs (e.g. sled purchase).[14]

6.8 Recreation Values

The opportunity to recreate in the surrounding backcountry wilderness is an important contributor to the region's quality of life. The same very high wilderness values/characteristics that appeal to visitors also appeal to residents. Winter activities include cross-country skiing, ski touring, snowmobiling and snowshoeing. Many of these activities are conducted within the Plan Area and depend on the continued access to the Crown land base.

The Blue River Powder Packers (snowmobile), Blue River Alpine Club and Saddle Mountain Riding Club are three local organizations with a broad base of community membership.

Residents from the neighbouring communities of Valemount and Clearwater have historically recreated in the Plan Area. The primary winter activity among regional residents is snowmobiling, but Nordic skiing is also popular.

Recreational use of the area is increasing. According to our discussions with community representatives, resident and regional snowmobile use within the Plan Area has increased significantly in recent years.[15] This has led to an increased number of resource-use conflicts involving tourism operators and residents of neighbouring communities. We have noted articles and letters-to-the-editor in the North Thompson Times and the Kamloops Daily News over the last several months in which these conflicts are discussed.

In other regions of the province, including Fernie, Revelstoke and Golden, local agreements between resident snowmobile clubs and heli-ski operators have contributed to resource sharing that provides a mechanism for preserving tourism and local recreation values. An Industrial

[13] Personal communication, Kurt Kier, Ministry of Water, Land and Air Protection.
[14] Pannell Kerr Forster Consulting Inc., *National Snowmobile Tourism Study*, Canadian Tourism Commission, December 2001.
[15] Personal communication, Steve Quinn, TNRD.

Collaboration process is in its infancy in Valemount and focusing on a working relationship between the Valemount and Area Trails Society (VATS) and Canadian Mountain Holidays, with local and provincial government participation. Although conflicts in the Plan Area are minimal, conflicts in the surrounding North Thompson Valley appear to be growing. If, as expected, tourism and recreation use grow in Blue River, conflicts between the two groups could also be expected to grow. The primary nature of the conflict from the MWHS perspective is safety. Snowmobile and other recreation users often operate in the same area in an uncoordinated and uncontrolled fashion increasing the potential of incident and liability. The Eight Peaks SRMP is designed to foster cooperation between recreation groups and operators to reduce conflicts.

Resident recreation activities are not monitored by the government and are not subject to market prices and government royalties as are commercial activities. We do not know the number, or other use characteristics, of residents using the Plan Area. Nevertheless, recreational activity has considerable value and local economic impact. One measure of the value of these activities can be considered to be the value placed on the experience by the user, net of the cost incurred to enjoy the experience[16]. In addition, recreationalists would generate economic activity through local purchases of food, equipment, and accommodation. In a 1996 study[17], Environment Canada estimated the following expenditures and economic values of nature-based activities among BC residents:

	Average Daily Expenditure	Economic Value*
Hunting	$50	$17.8
Outdoor activities in natural areas	$45	$8.2
Recreational fishing	$29	$12.2
Wildlife viewing	$18	$7.6

* willingness to pay above and beyond actual expenditures.

A rough indication of BC resident recreation value in the Blue River area can be determined by applying the above valuations to data from the 1996 BC Visitor Study[18]. The most appropriate category of visitor would be "Outdoor activities in natural areas". A conservative estimate of 9,400 visitor days would generate approximately $460,000 in expenditures and $84,000 in consumer surplus, for a total value of $544,000. Based on the Environment Canada study, this activity would also generate 8.3 jobs.[19]

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[16] For commercial sectors, economic rent is the above-normal financial returns that occur as a result of the product or service generated by that activity being in relatively fixed supply relative to demand. For non-commercial activities like recreation, the net resource value is generally measured by "consumer surplus", which is the amount that people would be willing to pay for the activity over and above what they actually pay.

[17] Environment Canada, *The Importance of Nature to Canadians:*, Federal-Provincial Task Force on the Importance of Nature to Canadians, 1996.

[18] Tourism BC, *British Columbia Visitor Study: Report on Travel in British Columbia The Report on Visitors to Thompson-Okanagan Tourism Region: North Thompson-Okanagan*, 1998.

[19] Data from Visitor Study: 5 million visitors to North Thompson, 60% BC residents, 2.6 days trip length, 20% visiting for outdoor adventure, 0.6% prorated to Plan Area based on resident population = approximately 9,400 visitor days. Environment Canada expenditure and consumer surplus values were updated to 2002 dollars using the

Because natural areas are renewable resources, these benefits continue year after year. If the quality of the asset is degraded, or if access is restricted, then the benefits may be diminished or lost. The natural resource attributes valued by residents are valued by visiting skiers as well and for this reason MWHS's "Mission Statement" includes environmental stewardship and backcountry safety objectives. Assuming the natural attributes can be preserved, the key question from a recreation value perspective then becomes, can visiting skiers and recreating residents co-exist in the same area?

7 Description of the Development Scenario

The underlying land and resource management regime for the Eight Peaks SRMP would be unchanged from the Base Case (status quo). Strategic direction is taken from existing plans, including the Kamloops LRMP and the Lakes LRUP, and gives consideration to park management plans, the Blue River Official Community Plan and the draft 1998 Thunder Blue Landscape Unit Plan.

The SRMP does not alter any existing or future Crown tenure authorizations (although MWHS will seek a tenure over the run development area that will provide certainty of access and quality of experience supporting the capital investment) , address private land use, consider non-winter recreation use, change Mountain Caribou guidelines, revisit Saddle Mountain master planning, affect park management planning, or, at the larger North Thompson Valley scale, resolve the interrelationships between existing snowmobiling, heli-skiing and caribou management.

The SRMP does propose a series of management objectives and anticipated outcomes that is meant to improve most resource values in the Plan Area. The objectives and outcomes pertain to forest practices, tourism, local recreation, stewardship, community involvement, community economic development and community partnerships. The dynamic among these multiple variables will be highly complex. Precise impacts cannot be predicted based on planning, as they will only emerge once implementation occurs.

The key elements of the Development Scenario, as they affect this analysis are as follows:

Physical Development

- The planned development of 27 heli-ski runs will occur across the 10 recreation management units comprising the Plan Area. The total number of hectares developed each year is shown in Appendix 2 of this document. As the runs are developed, the timber flows into the regional fibre basket and is assumed to be handled and processed as other timber in the area. After harvesting, the runs do not undergo conventional replanting but a silviculture regime is put in place to enhance skiing values.

BC CPI index. This yields 2002 values of $49.05 and $8.94 for daily expenditures and consumer surplus, respectively. The job coefficient for BC was 17.95 jobs per $1million of expenditures.

- In the past, MWHS has guided skiers on logged slopes where, over time, site regeneration problems can occur if young trees are affected. This can also lead to increased operational costs for licensees. As the trees get larger, skiing is no longer possible and other newly-logged sites have to be identified and used.

Forestry

- MSRM estimates that the planned development of heli-ski runs would result in the net loss of 1,350 ha from the long-term Timber Harvesting Land Base (THLB) of the Kamloops TSA. This land is gradually transformed for tourism use as the runs are developed over a five year period. According to Ministry of Forests this loss would be unlikely to affect the AAC in the next 30 to 40 years.
- The timber volume harvested for run development is assumed be roughly the same under the Development Scenario and the Base Case. The harvesting activity for run development would be undertaken by existing forest licensees or by MWHS through a Licence To Cut should development plans not be coordinated with the licensees' development plans. Volumes would be taken from the Forest Reserve portion of the Kamloops TSA AAC. Where and when this equivalent volume would have been harvested under the Base Case is not known at present. It may be all in one year, over several years, in the Plan Area or in other areas of the TSA. What we do know is that by the time the next Timber Supply Analysis is undertaken[20], the actual amount of timber harvested either under the Base Case or the Development Scenario would be roughly the same.
- The economic impacts of silviculture activity are assumed to be the same under both the Base Case and the Development Scenario. This is because the harvest cycle is assumed to be the same, as will be the silviculture obligations. The silviculture regime proposed by the SRMP is more intensive than the basic silviculture of the Base Case, but the actual managed ski-run timber base will be much smaller under the Development Scenario. Thus, the silviculture obligations (and related jobs and job income impacts) of the Development Scenario (higher unit cost but over a smaller area) is assumed to balance with the Base Case (lower unit cost but over a larger area).
- In the long-run, there would be continued silviculture activity on managed runs under the Development Scenario. There would be on-going ski run maintenance, and on the managed treed runs, MWHS intends to collaborate with the licensees to pilot innovative silviculture practices to see if portions of the runs can be regenerated to produce merchantable timber. We have assumed impacts to be negligible in terms of employment and employment income.
- While no negative impacts on the AAC are assumed in the short-term, there are long-term implications to reducing the THLB. These impacts may not occur until the next harvest rotation in around 80 years, but their effects could be felt sooner. For example, if other land withdrawals continue to happen in the TSA, then the Chief Forester would eventually have to consider the collective reduction of the land base in his AAC determination. It is difficult to say when this would happen, but in the end, there will be an opportunity cost associated with any land withdrawal from the THLB. Based on current Kamloops TSA measures, the withdrawal of 1,350 ha would result in a loss of approximately 4,000 m3 annually from the local harvest, taking with it 8.2 provincial person-years of employment and $284,000 in

[20] Kamloops TSA AAC decision planned for December 2006.

after-tax employment income. Again, this impact would occur only at the onset of the next rotation in approximately 80 years.

Tourism

- The following tourism benefits are stated in MWHS's Eight Peaks heli-ski plan summary:[21]
  * Total capital expenditures over a five year period of $33.4 million for accommodation, dining, helicopter, equipment and run development.
  * Incremental skier days of 448 in Year 1, rising to 1,152 by Year 5 and thereafter.
  * Annual revenues of $313,600 in Year 1 rising to $979,200 in Year 5 and thereafter.
  * 28.5 seasonal jobs in Year 1, rising to 52.0 in Year 5 and thereafter.
- We have not reviewed MWHS detailed planning to determine the reasonableness of the projections. We would expect the assumptions used to make the visitor and revenue estimates to be based on a reasonable amount of factual information, given the experience of the operator. However, we believe that the capital expenditure and employment projections may be too high:
  * The $33.4 million total capital expenditures estimate includes $12 million for fixed-lift development on Saddle Mountain, which is not covered in this analysis. When this is removed, the total estimated capital cost of Eight Peaks declines to $21.4 million. An assumed average cost of capital of eight percent on this amount would require $1.7 million in annual payments. These annual financing costs could not be covered by the projected revenues of $0.3 million in the first year, rising to $1 million in Year 5. Furthermore, our conversations with MWHS indicated that Eight Peaks visitors could be hosted with no further facilities or capital expenditures beyond those needed for run development ($4.8 million).[22] Even then, the cumulative capital cost would be expensive to service and take up approximately one third of Year 5's $1 million in total projected revenue. We have used projected run development costs of $4.8 to determine impacts on construction employment and employment income.
  * Employment projections of 28.5 seasonal positions over a 16 week ski season in Year 1 may also be too high. At an average wage of $14 for non-skilled positions, this would cost approximately $250,000 while direct revenues would only be $313,600. We asked MWHS for its current average cost of labour, and using that, projected employment levels based on its revenue projections. This generates 3.8 person years (equivalent to 12.25 seasonal jobs) of total employment in Year 1 and 11.9 by Year 5.[23]
- Approximately 65% of MWHS employees reside outside Blue River, but within the nearby region. Assuming the same proportion of residents and non-residents is maintained, the majority of direct benefits will go outside the community, most likely to nearby communities such as Clearwater, Valemount and Kamloops.
- MWHS has the opportunity to build the Eight Peaks heli-ski market ***without*** the SRMP. The most likely scenario is that the company would utilize cut blocks, on a temporary basis,

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[21] *Mike Wiegele Helicopter Skiing 8 Peaks Socio-Economic Data*, letter dated February, 2003. Figures are reproduced in Appendix 5 of this report.

[22] Personal communication, Peter Greenway, Chief Financial Officer, MWHS.

[23] A 30 percent labour cost would support a payroll of $94,080, or 10.5 jobs at $14 over a 16 week, 40 hours per week, ski season. The associated indirect and induced seasonal employment of 1.75 has a total impact of 12.25 seasonal jobs.

wherever it was convenient and practical for heli-skiing; however this product would have less market appeal than engineered groomed ski runs. This would occur on more of a one-off or ad hoc basis. Some open terrain runs might also be developed.

- However, our conversations with MWHS suggested that, without the SRMP, there would be too much uncertainty and the development plan would not proceed. The constant negotiation and communication with timber licensees and MOF in an attempt to ensure that there was continually enough terrain available for their skiers would make it difficult to build a new 100 skier per day market.
- If Eight Peaks is developed, then there will likely be additional benefits generated by the Saddle Mt. Development, although these are difficult to quantify. The joint development of Eight Peaks and Saddle Mt. will expand MWHS's market to a broader skier base through lower-priced, shorter-term packages. Visitation to Saddle Mountain (and its related benefits) would not be as significant under the Base Case.
- The recently-approved commercial tenure for snowmobile touring in the Plan Area will not impact this analysis as future activity is assumed to be the same under the Development Scenario and the Base Case.[24]

Land and Resource Management

- Under the SRMP, MWHS and forest licensees would still be required to apply for the necessary permits and approvals prior to development. The SRMP plan will not fetter the discretion of the statutory decision makers, including the Clearwater Forest District Manager, the Kamloops Forest Region Manager and the MSRM Regional Manager.
- The SRMP does not prevent other commercial recreation licensing from occurring in the Plan Area, nor does it prevent public access and use; however the plan objectives recognize the need to provide MWHS with some assurance of access and quality experience that will justify the proposed capital investment. According to Land and Water BC (LWBC), "the public may use the same land specified in the tenure agreement for non-commercial purposes ….and LWBC may also issue commercial tenures to other operators for the same land, while recognizing the link between capital investment and the need for business certainty."[25] The SRMP is designed to maintain the opportunities for development of compatible public and commercial recreation products including ice climbing, hut to hut skiing, snowmobile touring, and cat-skiing.

8 Impact Assessment

8.1 Economic Development

This section looks at the employment and employment income impacts associated with the SRMP.

There are no forestry impacts resulting from the implementation of the SRMP in the short-term.

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[24] Personal communication, Patty Gendron, Blue Jewel Snowmobile.
[25] http://lwbc.bc.ca/applying_for_land/commercial_recreation.htm

In the first five years, the Development Scenario harvest will match the Base Case harvest. Between Year 5 and Year 20, the Ministry of Forests has indicated that the permanent loss of 1,350 ha to the THLB is unlikely, by itself, to lead to a reduction in the AAC. Thus, there would be no impacts on local or provincial forestry jobs or income, in the next 40 years. Although impossible to quantify, the MoF and forest licensees place value in demonstrating multiple use of the forest and mutually beneficial outcomes.

Tourism impacts will commence when visitors first arrive to ski on the new managed forest runs. Some of these impacts will be felt in Blue River, where 35% of the MWHS work force resides and where there are some support businesses providing services to MWHS. Economic benefits that go outside the community, because employees or suppliers are based outside Blue River, are accounted for in the provincial impacts. Visitor revenues will generate 1.2 person-years (PYs) of local (i.e. Blue River) and 3.8 PYs total provincial employment[26] in Year 1, rising to 3.8 PYs local and 11.9 PYs total provincial employment by Year 5. Local employment income rises from $32,725 in Year 1 to $102,183 in Year 5. Total provincial employment income for Year 1 is $139,124, rising to $434,406 in Year 5.

The expenditure of $4.8 million for the construction of managed runs will generate impacts for the community and the province. 12.4 PYs of local employment are expected in years 1, 3 and 5 and 3.6 in Year 2. Most construction jobs are expected to be filled by out-of-region workers, considering that the total experienced construction labour force in the region is in the neighbourhood of 10 (according to the 2001 Census). Province-wide, 30.3 PYs would be associated with construction in Year 1 and 19.0 PYs in Year 5. After Year 5, all construction-related impacts cease.

Year	1	2	3	4	5	6>
Tourism						
Local Employment (PYs)	1.2	1.5	2.6	3.1	3.8	3.8
Local Income	$32,725	$39,270	$69,424	$82,160	$102,183	$102,183
Prov Employment (PYs)	3.8	4.6	8.1	9.6	11.9	11.9
Prov Income	$139,124	$166,948	$295,141	$349,282	$434,406	$434,406
Construction						
Local Employment (PYs)	12.4	3.6	12.4		12.4	
Local Income	$418,458	$120,892	$418,458		$418,458	
Prov Employment (PYs)	30.3	4.7	17.6		19.0	
Prov Income	$953,298	$141,446	$538,338		$582,018	
Total						
Local Employment (PYs)	13.6	5.0	15.0	3.1	16.2	3.8
Local Income	$451,183	$160,163	$487,882	$82,160	$520,641	$102,183
Prov Employment (PYs)	34.1	9.2	25.7	9.6	30.9	11.9
Prov Income	$1,092,422	$308,394	$833,479	$349,282	$1,016,425	$434,406

[26] All "total provincial" employment and employment income estimates include the local (i.e. Blue River) portion. The actual number of jobs created is 12.25; because they are seasonal they equate to 3.8 person-years of employment.

8.2 Community/Social

The community impacts on Blue River as a result of the implementation of the SRMP are difficult to accurately predict. However, several considerations can be discussed.

Tourism-related employment will increase and should contribute to the community's economic base. But the extent to which the community benefits will be largely related to where this new workforce resides. At present, about 65% of MWHS's workforce does not reside in the community. With an average wage of $14/hour[27] in mostly hospitality positions and the seasonal nature of the work, new employees are likely to be from the younger, mobile age groups. If they also live outside the region then their propensity to move into Blue River may be low, considering the limited availability of housing and other services.

This entry-level workforce may be trained and developed to prepare them for higher-paying and permanent jobs within the organization. Employees developed within the organizational workforce are more likely to be retained as they progress to more senior positions.

Over time, the community would benefit from the additional tourism employment of the Development Scenario and have a more diversified economic base, but the benefits will only be maximized if the population increases and community infrastructure improves, thereby making the community more attractive for people to live and work in. Such "virtuous circles" of growth can be based on outdoor adventure tourism, as demonstrated by Whistler, Fernie and Revelstoke, where diversified operator bases and locally-supported multiple-use agreements have managed to balance resident and visitor interests and set the stage for sustainable growth.

The community and social impacts of future possible conflicts between tourism and resident recreation are also difficult to predict. The public open houses for the SRMP indicate that while there is general community support for Eight Peaks, there are also concerns about continued freedom to recreate and provide opportunities for other commercial recreation operators. As noted in the Development Scenario assumptions of section 6, existing commercial recreation tenures do not prevent public access or use of the affected land base, nor do they prevent the Crown from issuing other commercial tenures. Therefore, the SRMP could increase benefits for all public and commercial recreation users. In reality, however, such outcomes cannot be legislated, but require the diligent application of local multiple-user solutions. A recent survey conducted by the BC Helicopter and Snowcat Operators Association showed that resident respondents from across the province were more likely than not to attribute negative social impacts to the heli and cat ski industry.[28] This is why many communities in the province have worked for multiple-use agreements among recreation clubs, tourism operators and other users such as forest licensees.

There are problems with competing use of the backcountry north of the Eight Peaks area and outside the management snowmobile areas south of Valemount. If this is not successfully

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[27] Personal communication, Peter Greenway.
[28] BC Helicopter and Snowcat Operators Association, *Analysis of Socio-Economic Benefits of Helicopter and Snowcat Skiing in British Columbia*, E-mail Draft Copy, April 26, 2002.

resolved through the just-established Industrial Collaboration process or other means, similar problems could occur in the Blue River area, jeopardizing the implementation of this planning chapter. For an agreement to be reached, there will have to be renewed willingness and goodwill exercised by all parties concerned.

It could be argued that such implications are not specific to the Development Scenario and will occur equally under the Base Case. However, under the Development Scenario, the managed runs, being visible from the highway, could draw in more potential non-commercial recreationists, who would not have access to the runs, thus creating more potential conflicts, at a time when resident use is increasing.

8.3 Provincial Government Revenues

In this section, we estimate how the Development Scenario directly affects provincial government revenues . These can be affected directly, by impacts on resource use and resource-related tax (e.g. stumpage, tourist-related tax revenues), and indirectly, by impacts on the economy and economic activity-related receipts (e.g. income and sales tax revenues). Expenditures can be affected directly, by resource-related activities or obligations (e.g., management activities, compensation requirements), and indirectly, by general economic and demographic effects (e.g., changes in population-related service expenditures).

Provincial government revenue impacts resulting from the SRMP are shown in the following table.[29] These are annual increases in provincial government revenue relative to the Base Case.

Year	1	2	3	4	5	6>
Tourism	$32,685	$39,119	$68,993	$81,447	$101,069	$101,069
Construction	$121,157	$21,904	$80,583		$84,854	
Total	$153,842	$61,023	$149,576	$81,447	$185,924	$101,069

The gain in annual tourism-related revenues begins in Year 1 with $32,685 in government revenues, rising to $101,069 in Year 5 and continuing thereafter. Provincial revenues due to construction total $310,000over the five-year construction period. The total impacts on government revenue are positive in the first five years when construction activity takes place. From Year 6 onward, there is a positive impact of $100,000 annually.

It is possible that the implementation of the SRMP could lead to increased provincial government costs (compared to the Base Case), if, for example, more personnel and resources were required for administration, management, enforcement, compliance and other duties linked to plan objectives and outcomes. MSRM has indicated that there would be no effective difference between the Development Scenario and Base Case in terms of provincial costs for these tasks.[30] Costs that may result from increased planning and land management activities (e.g. silviculture) are expected to be borne by licensees.

[29] See the Appendix 1 discussion of Provincial Revenues for methodology.
[30] Personal communication, Brenda Hartley, MSRM.

As there is no impact on the AAC and local harvest levels, government revenues that flow from forestry, including stumpage payments, other industry taxes and the provincial share of corporate and personal income taxes related to forestry, are not affected.

8.4 Economic Efficiency

This section considers the implications of the SRMP on net resource value, or "economic rent". Economic rents are a kind of resource wealth that can be estimated by looking at the pre-tax sales revenues of a commercial activity minus all private and public costs of production.[31] A proxy for economic rents in commercial sectors are resource taxes specifically based on the estimated net return.[32] We have used commercial recreation tenure payments as net resource values for tourism. Since it is assumed that there are no AAC impacts, forestry stumpage payments do not factor into this account. A summary is provided in the following table.

Year	20-year Total	1	2	3	4	5	6->
Tourism Resource Values	$84,912	$1,792	$2,048	$3,456	$3,888	$4,608	$4,608
Net Benefit (Loss)	$84,912	$1,792	$2,048	$3,456	$3,888	$4,608	$4,608
NPV - 4% discount rate	$60,807						
NPV - 8% discount rate	$45,114						

As shown, the net benefits are limited to the tourism industry, as there are considered to be no adverse affects (i.e. opportunity costs) affecting forestry (in the short-term or the medium-term). Values are discounted over a 20 year period at two discount rates (4% and 8%) to arrive at a net present value (NPV) estimate.[33] The NPV ranges from $60,807 at a four percent rate to $45,114 at eight percent.

We have previously noted that SRMP implementation will not involve any short-term or medium-term impacts on the AAC and that forestry activity will therefore be unaffected. There are, however, possible longer term impacts which can be attributed to the proposed withdrawal of 1,350 ha from the THLB. Second and subsequent rotations of timber harvest would not be available because the land would be used for ski runs rather than for timber production. One way to assess the value of the forgone timber values is through a technique called soil expectation value (SEV) analysis. The objective of SEV is to determine the current value of land for the production of timber and the economic rotation age that maximizes value to the landowner, in

[31] Public costs include external costs that may occur because of environmental and social disturbances. None were identified for this project.
[32] Ministry of Sustainable Resource Management, *Socio-Economic and Environmental Impact Assessment for Land and Resource Management Planning in BC*, November, 2001.
[33] The appropriate discount rates is generally based on the current long-term borrowing costs less the expected long-term inflation rate. In order to account for differences of opinion on what the appropriate rate is, we have provided two rates to demonstrate the effect on calculated values.

this case the Crown. SEV values will vary depending on factors such as the current age of the trees, tree species, silviculture costs, timber grade, logging costs, and log prices.[34]

In non-commercial sectors like public outdoor recreation, net resource value is generally measured by consumer surplus or willingness-to-pay over and above what is actually paid to obtain the recreation experience. Some of these values were discussed in section 6.7. The assumption made here is that resident recreation activity is not adversely affected by the Development Scenario, so there is considered to be no change in public recreation resource values. However, if public access were to be restricted (MWHS has stated it will seek "guaranteed access" for its operations) then public recreation resource values could be affected. Based on the consumer surplus value related to general outdoor recreation activities undertaken by BC residents noted in section 6.7 ($8.94[35] daily), any restricted public access and/or use could represent an opportunity cost (unless the recreational activity simply shifted to other locations). For example, if total recreation were reduced by 500 days per year (and not made up by people travelling elsewhere to recreate) the resulting $4,470 loss in "consumer surplus" would be almost as large as the $4,608 shown above as annual net benefits accruing from year 5 onwards.

While government agencies have indicated that public access is to be maintained, and that recreational use is likely to grow, rather than to diminish, MWHS has also indicated a desire to gain "guaranteed access" to the runs, which may have the effect of limiting public access.

What these figures do demonstrate is that the net gains (and possible net losses) are relatively small – i.e. provincial residents will not be significantly better off in terms of economic efficiency measures with SRMP implementation even assuming public access and use is unaffected, nor will they be significantly less better off if it is affected.

Note that this is not to diminish the importance of the increases in local seasonal employment discussed above in Section 8.1 Also, there could be benefits in terms of a development cycle that gains momentum because of the proposed new investments and clientele.

It is recognized in economic analysis that individuals place values on some items even if there is no intention to directly use or consume those items - this concept is applicable to environmental resources. Such "non-use" or "preservation" values include existence, option and bequest values. These have not been assessed in the economic efficiency account though they do exist, and are possibly of significant magnitude. It would take a separate environmental analysis to determine whether the SRMP improves or depletes these values.

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[34] The Economics and Trade Branch of the Ministry of Forests has developed a model that calculates SEV. A specific estimate of SEV for this case is not currently available.

[35] This is considered a very conservative estimate given the high incidence of higher value snowmobile use in the Plan Area.

9 Summary and Conclusions

The term of reference for this socio-economic analysis requested a focus on timber and tourism values of the Eight Peaks SRMP. As there is no negative short-term impacts on the timber harvest in the Kamloops TSA as a result of the implementation of the SRMP, there are no quantifiable forestry impacts. Implementation of the SRMP would provide the following benefits:

- Increased employment, employment income and government revenues resulting from project development (construction of runs and facilities) and increased winter tourism visitors.
- Increased diversification of the economic base in Blue River, which is still facing job declines in the forestry and transportation sectors.
- The potential for increased certainty of land use and access for commercial and non-commercial recreation users because of the management guidelines established by the SRMP planning chapter.

Factors which may limit economic benefits:

- Limited community infrastructure in Blue River (e.g. housing), which could mean that many employees, and the associated benefits, go to neighbouring communities like Clearwater and Kamloops.
- Collaboration and cooperation between user groups to implement this SRMP will be key to attaining maximum economic and social benefits. If current disagreements over resource use north of the Plan Area spill into Blue River, the social and economic gains resulting from the SRMP could be lost or never fully realized.

Over the long-term (i.e. greater than 40 years), the withdrawal of 1,350 ha from the Timber Harvesting Land Base proposed for the SRMP may result in an AAC reduction in the order of 4,000 m3 annually. There is an opportunity cost to the provincial government of forgone forestry resource rents (i.e. stumpage) related to harvesting that might otherwise have occurred in 80 years time. There may also be opportunity costs if resident recreation activities are restricted 0in the Plan Area.

Appendix 1 - Methodology

Employment And Employment Income

Forestry

Estimates of forest activity in the Plan Area (i.e. Blue River), based on an estimated harvest of 100,000 m3, were made by applying Kamloops TSA employment coefficients from the July 2001 *Timber Supply Analysis*. According to this report there were 0.19 harvesting person years and 0.08 silviculture person years of employment in the TSA associated with every 1,000 m3 of timber harvested in the TSA. There is no local timber processing activity and therefore no local processing employment associated with this harvest.

Provincial coefficients (which include TSA activity) were 0.22 harvesting person years, 0.09 silviculture person years, and 0.61 processing person years. The total direct employment (local and provincial) for every 1,000 m3 of harvest is 0.93 person years, or 93 direct jobs associated with the Plan Area harvest.

The above TSA coefficients are a measure of employment that stays within the Plan Area. The provincial coefficients are for ***total*** provincial employment and thus include the TSA portion – the provincial and TSA coefficients cannot be added as the TSA effect would then be double-counted.

The average forest industry income of $67,042 was taken from the last publicly available report on the operating performance of the BC Forest Industry[36], and updated to 2003 based on information obtained from Interior Forest Labour Relations Association.[37] The 2002 before-tax average income, including benefits, is $71,419.

Tourism

Direct employment estimates for Eight Peaks were estimated by applying MWHS's current labour cost of 30% to the revenues estimates shown in Appendix 2. This was then divided by the average wage to determine a total wage amount of $94,080 in Year 1, which is equivalent to 3.2 person years of tourism employment. This employment was apportioned to the Plan Area (1.1) and outside the Plan Area (2.1) based on MWHS's current proportion of in-region employees of 35%. The average wage of $14 for new tourism employees is a weighted average estimate provided by MWHS.

Indirect and induced employment was calculated using tourism employment multipliers for the North Thompson region provided by the Ministry of Finance.[38] The multiplier (1.085) was determined by taking the mid-point between the migration and no-migration multipliers for the region. The migration multiplier assumes that all new workers come from outside the Plan Area, while the no-migration multiplier assumes they all come from inside the area. Readers should

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[36] PriceWaterhouseCoopers LLP, *The Forest Industry in British Columbia 1999*, 2000.
[37] Personal communication, Paul Sourisseau.
[38] Horne, Garry, *British Columbia Local Area Economic Dependencies and Impact Ratios – 1996*, Ministry of Finance and Corporate Relations, May, 1999.

refer to the source document for a detailed discussion of migration and non-migration methodologies.

The employment income for indirect and induced tourism jobs in the region was also taken from Ministry of Finance[39], and updated using Statistics Canada's average weekly wage index between 1995 to 2002.[40] The 2003 average after-tax income was $15,327. The provincial average indirect induced after-tax wage of $18,722 was estimated by taking the unweighted average wage of all BC communities in 1995 ($17,076[41]) and updating it to 2002 based on Statistics Canada's BC wage index (1.096).

Indirect and inducted employment for the province was calculated using accommodation industry multiplier of 1.23 provided by Statistics Canada.[42]

All estimated incomes were converted to after-tax incomes using Canada Customs and Revenue Agency (CCRA) tax tables.

Construction

Estimated construction costs for run development of $4.8 million was provided by MWHS. Direct jobs associated with this activity were then estimated using the non-residential building construction multiplier of 9.63 person years of employment per $million of expenditures from the Ministry of Finance.[43] The portion of direct employment attributable to Blue River was capped at 10 jobs, to reflect the experienced construction labour force in the area in 2001. All other jobs were assumed to be taken by workers from outside the Plan Area.

Local indirect and induced employment impacts were based on the North Thompson construction employment multiplier (1.235) from the Ministry of Finance.[44] Statistics Canada provided a BC construction multiplier (1.38) to derive provincial impacts.[45]

The average construction worker income of $48,892 is based on the province's average construction wage for 2002 ($42,515), with a 15% addition for employee benefits.[46]

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[39] Ibid.
[40] Statistics Canada CANSIM II Table 282-0072 – Labour force survey estimates (LFS), wages of employees by type of work, North American Industry Classification System (NAICS), sex and age group, annual (dollars unless otherwise noted), 1997-2002.
[41] Horne, Garry, *British Columbia Local Area Economic Dependencies and Impact Ratios – 1996*, Ministry of Finance and Corporate Relations, May, 1999.
[42] Statistics Canada, *National and Provincial Multipliers*, 1998.
[43] Horne, Garry and Qing Zhuang, Teresa, *British Columbia Provincial Economic Multipliers and How to Use Them*, Ministry of Finance and Corporation Relations, May 2001.
[44] Horne, Garry, *British Columbia Local Area Economic Dependencies and Impact Ratios – 1996*, Ministry of Finance and Corporate Relations, May, 1999.
[45] Statistics Canada, *National and Provincial Multipliers*, 1998.
[46] Statistics Canada CANSIM II Table 282-0072 – Labour force survey estimates (LFS), wages of employees by type of work, North American Industry Classification System (NAICS), sex and age group, annual (dollars unless otherwise noted), 1997-2002.

Provincial Government Revenue

Provincial government revenues attributable to tourism include the provincial share of income tax from all tourism employment, tenure payments of $4 per skier, and provincial sales tax of 7.5% on all skier revenues as estimated by MWHS. There may be a slight underestimation of sales tax revenues if estimated revenues include a room charge component (room tax is 8.0%). Corporate income tax is not estimated.

Provincial revenues attributable to construction include the provincial share of income tax from all construction employment, as well as sales tax on non-wage construction spending. Corporate income tax is not estimated.

Appendix 2 - Terms of Reference

REQUIREMENTS

Methodology Note

The consultant should adhere to the general framework of the draft *Socio-Economic and Environmental Assessment for Land and Resource Management Planning in British Columbia: Guiding Principles* (MSRM, January 2003), the draft guidelines entitled *Socio-Economic and Environmental Impact Assessment for Land and Resource Management Planning in British Columbia* (MSRM 2001), and the guidelines for technical analysis in SRM planning (currently being developed).

Projections should be made for 1) current management directions and rules and 2) management direction and rules under the draft Eight Peaks SRMP. (The current set of management directions and rules is a baseline for analysis and does not represent a status quo option or scenario).

SEA Profile

Briefly describe the location, natural resources, and communities in the local area, including socio-economic information and economic activity associated with resources of the SRMP area.

Focus on tourism and timber, with more limited discussion of other significant sectors and resource uses.

Provide a brief overview of recent business developments and trends for the main tourism and forest industry operators that use plan area resources.

Draw on existing data and studies (e.g. 1996 and 2001 Census, more recent work by BC Stats, regional employment studies, community economic development plans, Timber Supply Reviews). Check existing information for accuracy and currency. Undertake additional research and consultation with key stakeholders who are able to provide appropriate technical input for areas where existing information is lacking.

Key Factors for Competitive Success

Briefly describe the factors that most affect the ability of the main current and potential businesses operating in the plan area to prosper in the marketplace. Such factors may include strategy elements, product attributes, resources, competencies, and competitive capabilities.

Briefly discuss how the key success factors may be affected under the two cases: 1) current management directions and rules and 2) management direction and rules under the draft Eight Peaks SRMP.

Specifically discuss how the SRMP will a) facilitate forest industry strategies to harvest economically viable stands, and b) encourage tourism development.

Economic Development

Make projections for short and longer term revenue and employment impacts of the main economic sectors for the two cases (1) current management and 2) SRMP management direction.

Discuss resource use and harvest trends. For tourism, analyse growth trends and key areas where growth pressure/conflicts are developing, for both the front-country and back-country.

Address visual quality issues and describe the Ministry of Forests visual management regime and its likely implications. Use areal indicators where economic indicators are not practical to develop.

Net Economic Value

Estimate economic rent impacts for the main economic sectors in the plan area, comparing current management with SRMP management.

Briefly discuss other pertinent Net Economic Values that are not easily quantifiable.

Community and Social Impacts

Provide brief qualitative descriptions of likely social impacts arising out (1) current management and 2) SRMP management direction. Include observations on recreation opportunity enhancement/reduction for local area residents and job quality issues such as seasonality and wage levels.

(Note that assessment of SRMP impacts on First Nations is being addressed through a separate consultative process).

Government Finances

Develop projections for the expected short and longer term provincial government revenues and expenditures in the main economic sectors for current management and SRMP management.

Conclusions

Briefly assess the plan's social and economic benefits and costs, including discussion of possible mitigation options where appropriate.

Presentation Of Results

Provide a concise report with a two-page executive summary, appropriate appendices, and a summary matrix table of information pertinent to the evaluation of the SRMP by senior decision-makers.

DATA SOURCES

MSRM will help the SEA analyst to obtain data and information from the ministry and other agencies. Data sources include:

- resource analyses by MSRM and other agencies, including results from GIS area statistics;
- applicable economic Building Blocks;
- draft Eight Peaks SRMP, Kamloops Land and Resource Management Plan, SEEA for Kamloops Land and Resource Management Plan, Kamloops Timber Supply Review reports, and other secondary source information that the analyst considers relevant; and
- phone interviews with knowledgeable stakeholders in government and the private sector.

DELIVERABLES

- A draft report by 28th March 2003.
- A final report by 15th April 2003.

Appendix 3 - List of Contacts

Dave Bacon	Land and Water BC
Wes Bieber	Weyerhaeuser
Craig Campbell	PriceWaterhouseCoopers
Steve Carr	Sustainable Resource Management
John Cartwright	Integrated Woods Services
Mike Clarkson	Timber Supply Branch
Kim Crevatin	BC Construction Association
Bruce Fraser	Landfall Consultants
Patty Gendron	Blue River Powder Packers, Blue Jewel Snowmobile Tours
Peter Greenway	Mike Wiegele Heli Skiing
Ron Grey	Kamloops Forest Region
Randy Harris	Kamloops Forest Region
Csaba Hajdu	Forest Industrial Relations
Brenda Hartley	Sustainable Resource Management
Duane Hennig	Integrated Woods Services
Debbie Hicks	Southern Interior Construction Association
André Jacques	Statistics Canada
Kurt Kier	Water, Land and Air Protection
Tom Lewis	Kamloops Forest Region
Bill Lougheed	Clearwater Forest District
Steve MacIsaac	Meeker Log and Timber Ltd.
Ernie Maynard	Ministry of Sustainable Resource Management
Steve Quinn	Thompson Nicola Regional District
Dan Peterson	Kamloops Forest Region
Roger Reid	Water, Land and Air Protection
Ronald Rioux	Statistics Canada
Carman Smith	Gilbert Smith Forest Products Ltd.
Paul Sourisseau	Interior Forest Labour Relations Association
Jeff Stone	Kamloops Forest Region
Sinclair Tedder	Economics and Trade Branch, Ministry of Forests
Pam Troyer	Weyerhaeuser
Robin Tyacke	Blue Jewel Snowmobile Tours
Ron Van der Zwan	Clearwater Forest District
Arnold Wiebe	Valemount

Appendix 4 - Bibliography

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BC Ministry of Forests, *Harvest Billing Report – 2002*, 2003.

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Pannell Kerr Forster Consulting Inc., *National Snowmobile Tourism Study*, Canadian Tourism Commission, December 2001.

PriceWaterhouseCoopers LLP, *The Forest Industry in British Columbia 1999*, 2000.

Statistics Canada CANSIM Table 281-0027 – Average weekly earnings (SEPH), unadjusted for seasonal variation, by type of employee for selected industries classified using the North American Industry Classification System (NAICS), annual (Dollars), 1995-2002.

Statistics Canada CANSIM II Table 282-0072 – Labour force survey estimates (LFS), wages of employees by type of work, North American Industry Classification System (NAICS), sex and age group, annual (Dollars unless otherwise noted), 1997-2002.

Statistics Canada, *National and Provincial Multipliers,* 1998.

Tourism BC, *British Columbia Visitor Study: Report on Travel in British Columbia The Report on Visitors to Thompson-Okanagan Tourism Region: North Thompson-Okanagan*, 1998.

Venture Kamloops profile of Blue River: http://www.venturekamloops.com/Pages/blueriver.htm.

Appendix 5 - MWHS Eight Peaks Projections

The following table of projections were provided by MWHS. The revenue estimates, based on the number of skier days and average daily skier revenue, were used to estimate employment and provincial government revenue impacts. The Run Development estimates show the approximate number of hectares to be developed, the timing and costs of development, and the number of skiers that could be accommodated. This section was also used to determine construction impacts, including employment, employment income and provincial government revenues.

The Employment and Capital Investment (other than Run Development) estimates shown below were not used in the preceding analysis.

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Skier Numbers and Revenue						
Number of Skiers	40	40	60	60	80	280
Occupancy Rate (%)	70	80	80	90	80	80
Number of ski weeks/season	16	16	18	18	18	17.2
Number of skier days	448	512	864	972	1152	3948
Revenue per skier day	700	735	770	810	850	773
Revenue	**313,600**	**376,320**	**665,280**	**787,320**	**979,200**	**3,121,720**

Employment (seasonal December to April)						
Accommodation	5	5	7	7	9	
Food Services	6	6	8	8	10	
Maintenance	1	1	1	1	1	
Guide Services	10	10	16	16	20	
Helicopter Services	4	4	6	6	8	
Massage	1	1	2	2	2	
Administration	1.5	1.5	2	2	2	
Total Staff	**28.5**	**28.5**	**42**	**42**	**52**	

Capital Investment and Run Development ($millions)						
Accommodation and Dining Facilities	6	-	2	-	2	10
Helicopter	2.8	-	2.8	-	-	5.6
Fixed Life Development (Saddle Mountain)	-	2	5	-	5	12
Snow Grooming Equipment	.25	.25	-	.25	.25	1
Total	**9.05**	**2.25**	**9.8**	**.25**	**7.25**	**28.6**

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Run Development						
No. Skiers	448	512	864	972	1152	1152
3.25 ha x 3.5 reset/No. weeks	.7109	.7109	.6319	.6319	.6319	.6319
Total ha required	319	364	546	614	728	728
No. ha ground groomed	200	-	100	-	100	400
Cost/ha ($)	7,500	7,500	8,000	8,000	8,500	7,900
Cost ($millions)	1.5	-	.8	-	.85	3.15
No. ha gladed	200	100	100	-	100	500
Cost/ha ($)	3,000	3,000	3,500	3,500	4,000	3,400
Cost ($millions)	.6	.3	.35	-	.4	1.65
Total ha developed	400	100	200	-	200	900
Total Run Development Cost ($millions)	**2.1**	**.3**	**1.15**	**-**	**1.25**	**4.8**